

What is claimed is:

1 1. A method for audio content playback during video trick mode playback,
2 comprising;

3 reading a coded digital data from a storage medium, said coded digital data
4 comprising a video programming and corresponding audio programming;

5 decoding from a portion of said digital data comprising said audio
6 programming a plurality of digital audio samples corresponding to a selected portion
7 of the video programming; and

8 key shifting a playback audio pitch associated with said audio samples to
9 compensate for said trick mode playback.

1 2. The method according to claim 1, further comprising dropping selected ones of
2 said audio samples at a rate approximately corresponding to a selected trick mode
3 video playback speed of said video programming; and

4 generating an audio playback signal corresponding only to a remaining set of
5 said audio samples.

1 3. The method according to claim 2, wherein said audio samples are dropped at a
2 rate of every n samples, where n is equal to the selected trick mode playback speed
3 relative to a normal playback speed.

1 4. The method according to claim 3, wherein said key shifting step further
2 comprises shifting said playback audio pitch by a factor of approximately $1/n$.

1 5. The method according to claim 1, further comprising repeating selected ones of
2 said audio samples at a rate inversely proportional to a selected trick mode video
3 playback speed of said video programming to produce a trick mode set of audio
4 samples; and
5 generating an audio playback signal corresponding to said trick mode set of said
6 audio samples.

1 6. The method according to claim 5, wherein said audio samples are repeated $1/n$
2 times, where n is equal to the selected trick mode playback speed relative to a
3 normal playback speed.

1 7. The method according to claim 6, wherein said key shifting step further
2 comprises shifting said playback audio pitch by a multiplying factor of approximately
3 $1/n$.

1 8. The method according to claim 1 wherein said storage medium is selected from
2 a group consisting of a DVD, a magnetic hard disk, magneto optical disk and a video
3 CD.

1
2
3
4
5
6
7
8
9
10

1 9. The method according to claim 1, wherein said coded digital data is an MPEG
2 format and said reading step further comprises decoding an MPEG bit stream to
3 obtain said audio samples.

1
2
3
4
5
6
7
8
9
10

1 10. Apparatus for audio signal playback during fast forward playback video trick
2 modes, comprising:

3 a storage medium reader for reading a coded digital data from a storage
4 medium, said coded digital data comprising a video signal and a corresponding
5 audio signal;

6 a decoder for decoding from a portion of said digital data comprising said
7 audio signal a plurality of digital audio samples corresponding to a selected portion
8 of the video signal; and

9 an audio processor for key shifting a playback audio pitch associated with
10 said audio samples to compensate for said fast forward playback mode.

1 11. The apparatus according to claim 10, wherein said decoder drops selected
2 ones of said audio samples at a rate approximately corresponding to a selected trick
3 mode video playback speed of said video signal; and

4 a digital to analog converter generating an audio playback signal
5 corresponding only to a remaining set of said audio samples.

1 12. The apparatus according to claim 11, wherein said audio samples are
2 dropped at a rate of every n samples, where n is equal to the selected trick mode
3 playback speed relative to a normal playback speed.

1 13. The apparatus according to claim 12 wherein said audio processor shifts said
2 playback audio pitch by a factor of approximately $1/n$.

1 14. The apparatus according to claim 10, wherein said decoder repeats selected
2 ones of said audio samples at a rate inversely proportional to a selected trick mode
3 video playback speed of said video presentation to produce a trick mode set of audio
4 samples; and

5 a digital to analog converter generating an audio playback signal
6 corresponding to said trick mode set of said audio samples.

1 15. The apparatus according to claim 14 wherein said audio samples are
2 repeated $1/n$ times, where n is equal to the selected trick mode playback speed
3 relative to a normal playback speed.

1 16. The apparatus according to claim 15 wherein said audio processor shifts said
2 playback audio pitch by a multiplying factor of approximately $1/n$.

1 17. The apparatus according to claim 10 wherein said storage medium is selected
2 from the group consisting of a DVD, a magnetic hard disk, magneto optical and a
3 video CD.

1 18. The apparatus according to claim 10 wherein said coded digital data is
2 arranged in an MPEG format and said storage medium reader decodes an MPEG bit
3 stream to obtain said audio samples.